

AATGATGCC GCGGCGCCGAG AAGTCTTGA CTCGCGGAG GAGCGCGCG CTCGAGCTG GCGCAGCTT TGGAGACCA TTAGAGATT TGGTCCAG
 GAGCTGTGA GATCGCGG GAGGAGAG CTCACATC ATTGTGTCA CTCGCGG GGGAGGAGG AAGCGGCT GCGGCTCT GCGGCTTTC GCGATCTG CAGCTGCC
 CHTCTGCG AAGTATGT CTCGCGGAG GAGCGCGG CTCGCTGCT GCGGCGGCT CTCGCTGCT GCGGCTGCT GCGGCGGAG GCGGCTGCT
 M V C G S R G M L L P A G L L A L A L A L C L L R V P G A R A A A C 35
 GAGCCCTTC GATTCCTCT CTCGCTGGA AGCTGACCA GATGCCAAC GATCTGACC AAGCGACCA GCGCAGACCC ATCTGTGCA TCGACAGATT CGAGATGTC
 E P V R I P L C K S L P N M T K M P N H L H S T Q A N A I L A I E Q F E G L 75
 CTCGCGACCC ATCGCAGCCC GAGTCTGCT TTCTCTCT TTGCTATGTA CCGCCCATC TGCACATTC ACTTCGAGA CCGACCCATC MAGCCCTGCA AGTCTGTGTC CCGAGCGGCC
 L G T H C S P D L L F L C A M Y A P I C T I D F Q H E P I K P C K S V C E R A 115
 GCGGAGGCT GTGAGGCCAT CTCATCGAG TACGCCACT CTCGCGCGA MAGCTGAGC TCGAGGAGC TCGCATGTA TGACCCGCGC GTGTGATCT CTCGCGAGC CHTGCTACT
 R Q C E P I L I K Y R H S W P E S L A C E E L P V Y D R G V C I S P E A I V T 155
 GCGAGCGAG CCGATTTCC TTGATGCC AGTATGGA ACTGTAGAG AGCAGCAGT GAGCTGTCA AATGTAAACC AGTCAGAGCT ACACAGAGA CCTATTCCG AAGCATATC
 A D G A D F P M D S S N G N C R G A S S E R C K C K P V R A T Q K T Y P F R N N Y 195
 AATGATGCA TTGCGGCTAA AGTAAAGGA ABAAGACCA AGTGTATGA TTGTACTGA GTATGTAGG TGAAGAGAT TTATAAGGCT TTCTGTGTA ACATTCGAA GGAACGTG
 N Y V I R A K V K E I K T K C H D V T A V V E V K E I L K A S L V N I P R E L Y 235
 AACCTTATA CAGCTCTG CTCCTCTGT CTCCTACTA AGSTATAGA GAGATATTC ATGATGAGT ACGATGAGT AGACCCCTCC AGATTAAGT TGTATGAGC TTCTATGCT
 N L Y I S S G S L S E P L N V N E E Y L I M G Y E D E E R S R L L L V E G S I A 275
 GAGATATGA AGGATGACT TGTATGAAGA GTTAGGCTT GGGATATGGA CHTCTGCTA CTGAGATGA TTCTAGCCAT AGTATGCA CTCAGATCA GAGCTGTGC
 E X W K D R L G K K V K R N D M K L R H L G L N T S D S H S D S T Q S Q K P G 315
 AAGATTTCA ACTCCCGGA AGCAGGAC TAAATCTGA AATCGAGAA ATCTGATG CACTCTCAT TAAATCTGC ATTCGCTGAC TAGCAGAGC AATTTGACT ATTCGATTC
 R N S N S R Q A R N 325
 AAGTATAT TTATGACAC AAGATGCG TGTATCTA TATATCTT ATTTTCTT TGTATCTG CTITCTCT TCCCGATCT CTTTITGT GTCTGTGTA CAGATCTTA
 AATATAT ATTTATTA TTACATCT CHTGCTG CANTATAT AATATATGA TTGTATAC AGGCTCTT TGTGATGA ATGTATAT TGTCTGCT
 CAGCATAT TGTATGCA TTGTATAT TGTATAT CAGGAGAC TTATAGCT GTATAGCTA CTTGCTCT CTATATAG CTTATCTT GATCTCT
 TGTATCT CHTGCTTA GATGCTTA ATGTTTAT AAGTATAT GAGCTTGA ATCAATAT CAGAGCGG AGCATATAG CACATAG CATTATGAA GATATGAC
 AAGATATG TATTTATGA ATGATGGA AGCAGATAT GAGCTTGA ATGATAT GAGCTTGA ATGATAT TGTCTCT GAGATGCA ACTGATGA GTATGTGTC GGTGTATC
 AGCAGATAT TTCTTTAG GATATGTC TTGTCTG ATGATAT TCGATATG ATGATAT TGTATGCA CHTGCTCT TATGAGTA CHTGTAT ATTTGCTC
 TTATGATA AGCATTGT GTCTTTTT TTCTTTTA AATATAT CHTCTGCT ATTTGAGC ATTTGAGC AATATATG AATATATG CHTGTAT ATTTGAGC
 TACTATTA AAGCTATG GTAAATGT GGTATAT GTATGCT GTGTCTGCT GTGTCTGCT GTGTCTGCT GTGTCTGCT GTGTCTGCT GTGTCTGCT
 CAGTCTGCT CACTTATCA TTGTATGTT TGTCTTTAA TATATCTTA AATATCTTA AATATCTTA AATATCTTA AATATCTTA AATATCTTA

FIG. 1

bovine	MVCGSR <u>RGML LLPAGLLALAL ALCLLR</u> VEGA RAAACEPVRI PLCKSLPWNM	50
human	-----P-----R-----	50
bovine	TKMPNHLHHS TQANAILAIE <u>QFEGLLGTHC SPDLLEFLCA MYAPICTIDF</u>	100
human	-----	100
bovine	QHEPIKPKCS VCERARQGCE FILIKYRHSW PESLACEELP VYDRGVCISP	150
human	-----N-----	150
bovine	EAIVTADGAD FPMDSNGNC RGASSERCKC KPVRAQKTY FRNNVNYVIR	200
human	-----I-----	200
bovine	AKVKEIKTKC HDVTAVVEVK EILKASLVNI PRETVNLYTS SGCLCPPLNV	250
human	-----S-----D-----	250
bovine	NEEYLIMGYE DEERSRLLV EGSIAEKWKD RLGKKVKRWD MKLRHLGLNT	300
human	---I-----SK	300
bovine	SDSSHSDSTQ SQKPGRNSNS RQARN	325
human	---N-----S-----P-----	325

FIG.2A

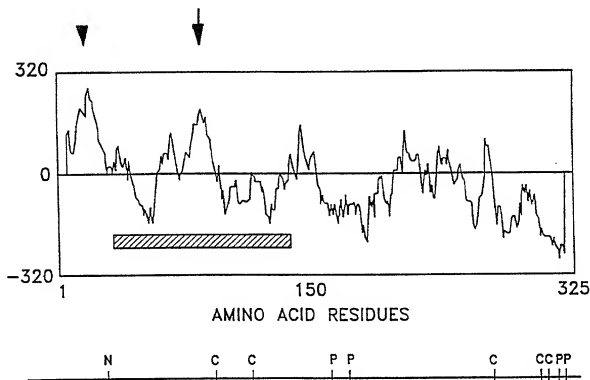


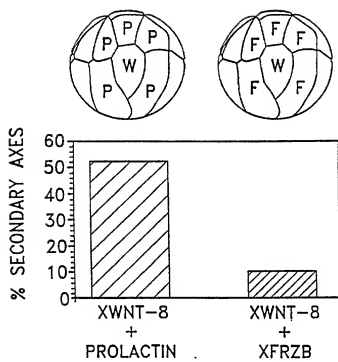
FIG.2B

Rat fz-1	QRTSTLHCT DIAYVQTHMP NLTSTHVED PSTEVHOFYP TVKVCSTALE	160
Drosophila frizzled	CEHTSTSLG NLTAVTHMP NLTGTHQER ASLEVHQAP LNKIGCSDF	102
bovine frzb	CEHTVTHCK SLFASVTHMP NLTSTHVED NLTAVTHQEG ILGTGCSFLL	84
human frzb	CEHTVTHCK SLFASVTHMP NLTSTHVED NLTAVTHQEG ILGTGCSFLL	84
	*	*
Rat fz-1	KFTQSLNTP VCTVLEALP --PCHSCTG A VCTHLMN EPFQNTDLE	207
Drosophila frizzled	QFTQSLNTP VCTVLEALP --PCHSCTG A VCTHLMN EPFQNTDLE	149
bovine frzb	IFFTQSLNTP VCTVLEALP --PCHSCTG A VCTHLMN EPFQNTDLE	134
human frzb	IFFTQSLNTP VCTVLEALP --PCHSCTG A VCTHLMN EPFQNTDLE	134
	*	*
Rat fz-1	KFKFPVHGQ EQLP	221
Drosophila frizzled	ESKFPVHGQ EDLC	163
bovine frzb	AKELPVYLS QVC	147
human frzb	AKELPVYLS QVC	147
	*	*

FIG.3

		qp	*	
xPrzb	MSPTKIDSP	U---LIVIP GIMLIVP	YCEPCEPVRI PCKSPNNM	46
bPrzb	MCSSGGML	ILPAGLIALA ALIATVCS	RANCEPVRI ELCKSPNNM	50
hPrzb	MCSSPGML	ILRAGLIALA ALIATVCS	RANCEPVRI ELCKSPNNM	50
Consensus	MCSS..GGML	IL..AGLIALA ALIATVCS	RANCEPVRI ELCKSPNNM	50
xPrzb	TKMNIHHS	TOANAIIAIE QFEGLIHHC	SDLLFFLCA MYAPICTIDF	96
bPrzb	TKMNIHHS	TOANAIIAIE QFEGLIHHC	SDLLFFLCA MYAPICTIDF	100
hPrzb	TKMNIHHS	TOANAIIAIE QFEGLIHHC	SDLLFFLCA MYAPICTIDF	100
Consensus	TKMNIHHS	TOANAIIAIE QFEGLIHHC	SDLLFFLCA MYAPICTIDF	100
xPrzb	QHEPIPKCS	VCEARACCE FILIKYHSM	PESLACEELP VIDRGVCISP	146
bPrzb	QHEPIPKCS	VCEARACCE FILIKYHSM	PESLACEELP VIDRGVCISP	150
hPrzb	QHEPIPKCS	VCEARACCE FILIKYHSM	PESLACEELP VIDRGVCISP	150
Consensus	QHEPIPKCS	VCEARACCE FILIKYHSM	PESLACEELP VIDRGVCISP	150
xPrzb	AEIVTVEQT	DSMHDFPMDS NGNGCSGAG	EECKCKEHA IOKTYFNNY	196
bPrzb	EAIVTAD-C	---ADFPMDS SNGNGGASS	EECKCKEHA IOKTYFNNY	195
hPrzb	EAIVTAD-C	---ADFPMDS SNGNGGASS	EECKCKEHA IOKTYFNNY	195
Consensus	EAIVTAD-C	---ADFPMDS SNGNGGASS	EECKCKE..HA IOKTYFNNY	200
xPrzb	NYVIRAKVKE	IAIKCHIVTA VVEKEILRS	SLVNIREDTV ILVTSGGCLC	246
bPrzb	NYVIRAKVKE	IAIKCHIVTA VVEKEILRA	SLVNIREDTV NLTSSGCLC	245
hPrzb	NYVIRAKVKE	IAIKCHIVTA VVEKEILRS	SLVNIREDTV NLTSSGCLC	245
Consensus	NYVIRAKVKE	IAIKCHIVTA VVEKEILRS	SLVNIREDTV NLTSSGCLC	250
xPrzb	IMGVETKEET	ELLVVEGSA EKVNDRIACK	VREWDOKLR	296
bPrzb	IMGVETKEET	ELLVVEGSA EKVNDRIACK	VREWDOKLR	295
hPrzb	IMGVETKEET	ELLVVEGSA EKVNDRIACK	VREWDOKLR	295
Consensus	IMGVETKEET	ELLVVEGSA EKVNDRIACK	VREWDOKLR	300
xPrzb	-----PRK	SDQVPADIN KNSFOARS		319
bPrzb	LGINTSDSH	SDTOSQKSG RNSNFOARN		325
hPrzb	LGISKSDSN	SDTOSQKSG RNSNFOARN		325
Consensus	LG....SDSS.	SDTOSQKSG RNSNFOARN		330

FIG.4

*FIG. 5*

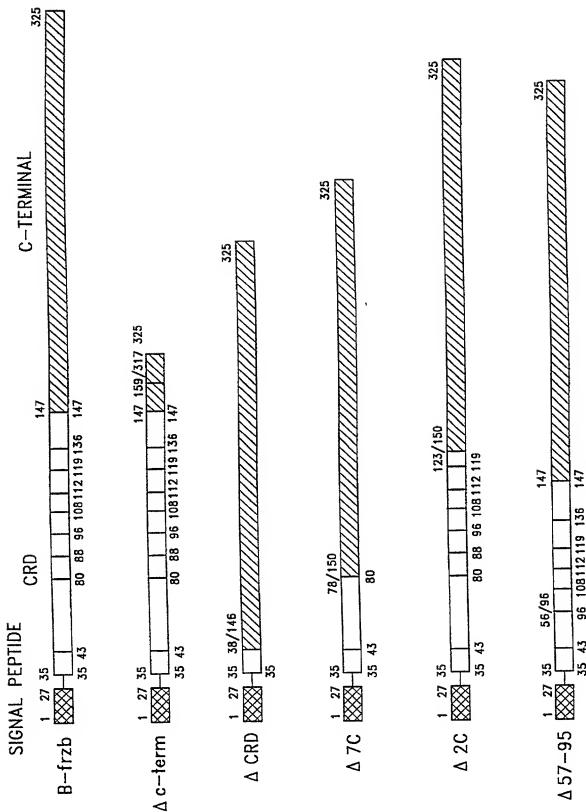
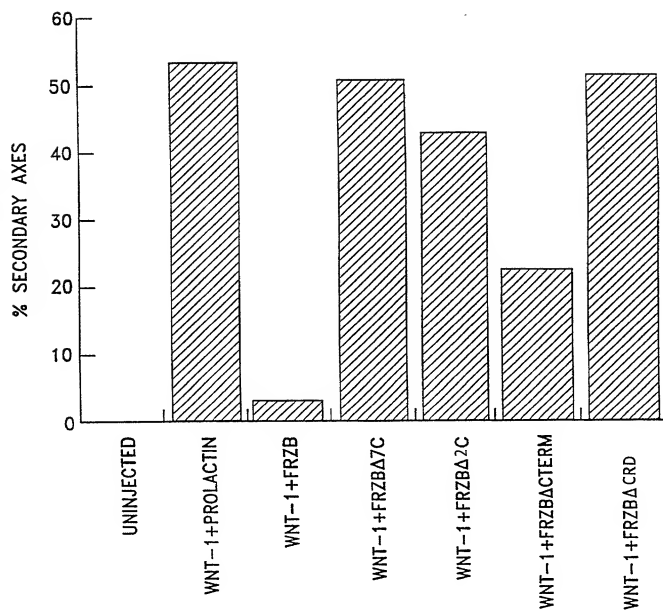


FIG.6

*FIG. 7*